

## STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: N00004606

Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

N00004606001

**Project Name:** 

Sample Description:

**EMORY Rr MILE 12.1** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.:

EMORY012.1RO

**Date/Time Collected:** Sampler's Name:

06/02/2009 09:50

County:

**GEOFF KLEIN ROANE - 73** 

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

:Hq

7.79

pH Units

Chlorine, residual:

Conductivity:

100

**uMHO** 

mg/L

Temperature:

23.55 **Dissolved Oxygen: 8.26** 

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	30	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

N00004606002

**Project Name:** 

Sample Description:

**EMORY 002.1RO** 

Sampler Project Name: TVA ASH SPILL **Project Site No.:** 

Station No.:

**EMORY 002.1RO** 

Date/Time Collected:

06/02/2009 11:01

Sampler's Name: County:

GEOFF KLEIN

**Sample Matrix:** 

**ROANE - 73** 

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code:** Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC

**Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009

09:05

Received By:

L Barrociere

**Field Determinations** 

:Hq 7.73

Chlorine, residual:

115

pH Units

Conductivity:

uMHO

Temperature: Dissolved Oxygen: 8.96

25.24

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	34	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME			·····		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	29	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	13	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606003

**Project Name:** 

Sample Description: Sampler Project Name: TVA ASH SPILL

APPROX 100' D/S FROM MIDDLE DREDGE P<sup>1</sup> Chlorine, residual:

**Field Determinations** 

**Dissolved Oxygen: 9.01** 

Conductivity:

Temperature:

7.68

117

24.85

pH Units

**uMHO** 

mg/L

**CFS** 

pH:

Other:

Flow:

**Project Site No.:** 

2A

**Station No.:** 

**DREDGE PLUME Date/Time Collected:** 06/02/2009 11:09

Sampler's Name:

**GEOFF KLEIN** 

County:

**ROANE - 73** 

Sample Matrix:

EFO:

Water

Sampling Agency:

Chattanooga

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 **TDEC-WPC** 

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	31	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	ME*					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606004

**Project Name:** 

**Field Determinations** 

Dissolved Oxygen: 10.91

Conductivity:

Temperature:

8.27

192

23.59

pH Units

**uMHO** 

mg/L

**CFS** 

pH:

Other:

Flow:

Sample Description: Sampler Project Name: TVA ASH SPILL

EMORY Rr MILE 1.9 AT UNDERWATER WEIR Chlorine, residual:

**Project Site No.:** 

2B

**Station No.:** 

EMORY001.9RO

**Date/Time Collected:** 

06/02/2009 11:18

Sampler's Name:

**GEOFF KLEIN** 

County:

**ROANE - 73** 

Sample Matrix:

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

TEST: Alkalinity, Total	ME.	THOD: EPA 31				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	81	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	68	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606005

**Project Name:** 

**Sample Description:** 

**EMORY Rr MILE 1.7** 

Sampler Project Name: TVA ASH SPILL

**Date/Time Collected:** 

Station No.:

EMORY001.7RO

Sampler's Name:

**Project Site No.:** 

06/02/2009 11:26 **GEOFF KLEIN** 

County:

**ROANE - 73** 

Sample Matrix:

Water

EFO: Sampling Agency: Chattanooga

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 **TDEC-WPC** 

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

:Hq

8.65

pH Units

Chlorine, residual:

Conductivity:

220 24.80 **uMHO** 

Temperature:

Dissolved Oxygen: 12.41

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME:					
ANALYTE	RESULT	UNITS	MQL	ANALYZED BY:	Y: DATE	
Total Alkalinity	110	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	86	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	ME:						
ANALYTE	RESULT	JLT UNITS MD		MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

MQL - Method Quantitation Limit

N00004606006

**Project Name:** 

Sample Description:

**EMORY Rr MILE 0.1** 

Sampler Project Name: TVA ASH SPILL **Project Site No.:** 

Date/Time Collected:

Station No.:

EMORY000.1RO 06/02/2009 11:37

Sampler's Name:

**GEOFF KLEIN** 

County: Sample Matrix: ROANE - 73

Water

EFO: Sampling Agency: Chattanooga

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

Dissolved Oxygen: 11.93

pH:

8.60

pH Units

**uMHO** 

Chlorine, residual:

Conductivity: Temperature:

224

24.47

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME	**************************************				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	79	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	METHOD: SM 2540D					***************************************
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606007

**Project Name:** 

Sample Description:

EMORY Rr MILE 0.1/FIELD DUPL.

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** Station No.:

4 FD

Date/Time Collected:

EMORY000.1RO

Sampler's Name:

06/02/2009 11:37 **GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

**Sampling Agency: Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:** 

**TDEC-WPC** TDEC-WPC 06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

**Priority Date:** 

L Barrociere

**Field Determinations** 

:Ha

8.60

pH Units

Chlorine, residual:

Conductivity:

224

**uMHO** 

Temperature: Dissolved Oxygen: 11.93

24.47

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2			·
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium ANALYTE	METHOD: SM 3500-Ca D					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	85	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					<del></del>
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	MET					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED I	ANALYZED BY:	: DATE
Total Suspended Solids	10	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

N00004606008

**Project Name:** 

Sample Description:

EMORY Rr MILE 0.1/FIELD BLANK

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

4 FB

Station No.:

EMORY000.1RO

Date/Time Collected:

06/02/2009 11:37

Sampler's Name:

GEOFF KLEIN

County:

DOANE 70

**Sample Matrix:** 

ROANE - 73 Water

EFO:

Chattanooga

Sampling Agency:

TDEC-WPC

Billing Code:

327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

Priority Date:

06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

Chlorine, residual:

Conductivity: Temperature:

**Dissolved Oxygen:** 

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	WE	THOD: SM 350			******	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Suspended	ME.			·····		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606009

**Project Name:** 

Sample Description:

**CLINCH Rr MILE 2.3** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

**Station No.:** 

CLINC002.3RO

**Date/Time Collected:** 

06/02/2009 11:50

Sampler's Name:

**GEOFF KLEIN** 

County:

**ROANE - 73** 

Sample Matrix:

Water

EFO:

Sampling Agency:

Chattanooga

**Billing Code:** 

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.33

pH Units

Chlorine, residual:

Conductivity:

225

uMHO

Temperature:

23.80

Dissolved Oxygen: 11.40

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	MET	,,				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	73	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	57	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009	

METHOD: SM 2540D					
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
U	mg/L	10	10	A Peeples	6/5/2009
		RESULT UNITS	RESULT UNITS MDL	RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit MQL - Method Quantitation Limit** 

N00004606010

**Project Name:** 

Sample Description:

CLINCH Rr TVA DISCHARGE POINT

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

5A

**Station No.: Date/Time Collected:** 

KINGASHOUTF2 06/02/2009 11:59

Sampler's Name:

**GEOFF KLEIN** 

County:

**ROANE - 73** 

Sample Matrix:

Water

EFO:

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code: Send Report To:** Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/12/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

pH: 8.09 pH Units Chlorine, residual: Conductivity: 223 uMHO

Temperature:

**Field Determinations** 

23.88

Dissolved Oxygen: 10.42 mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZE	ANALYZED BY:	DATE
Total Alkalinity	80	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	62	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F			2		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

N00004606011

**Project Name:** Sample Description:

CLINCH Rr MILE 4.5 NEAR SUGAR GROVE V. Chlorine, residual:

**Field Determinations** 

Dissolved Oxygen: 11.75

Conductivity:

Temperature:

8.44

224

23.88

pH Units

**uMHO** 

mg/L

**CFS** 

pH:

Other:

Flow:

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.:

**Date/Time Collected:** 

CLINC004.5RO 06/02/2009 12:10

Sampler's Name:

**GEOFF KLEIN** 

County:

**ROANE - 73** 

**Sample Matrix:** 

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code:** Send Report To: 327.34-20 **TDEC-WPC** TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/12/2009

Date/Time Received:

06/03/2009

09:05

Received By:

L Barrociere

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	94	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT UNITS		MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	77	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	ME.	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/3/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 



## STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

**Greg Denton** 

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: N00004606

Nashville Central Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

N00004606001

**Project Name:** 

Sample Description:

**EMORY Rr MILE 12.1** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

06/02/2009 09:50

County:

**GEOFF KLEIN** ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code:** Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

7.79

pH Units

Chlorine, residual:

Conductivity:

100

uMHO

Temperature:

23.55 **Dissolved Oxygen: 8.26** 

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	_
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009	-

TEST: ICP	ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	80	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	0.45J	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/20/2009
Barium	30	μġ/L	2.5	5	·A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	6.2	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.22J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	2.5	μg/L	0.38	1	A Wilson	6/20/2009
Lead	U	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	38	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	1.5	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606001

**Project Name:** 

Sample Description:

**EMORY Rr MILE 12.1** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

EMORY012.1RO

Date/Time Collected:

06/02/2009 09:50

Sampler's Name: County:

Station No.:

**GEOFF KLEIN** 

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Chattanooga

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

TEST: Mercury

ANALYTE

Mercury

L Barrociere

METHOD: EPA 245.1 RESULT UNITS

0.070J

μg/L

MDL 0.029 MQL ANALYZED BY: 0.2 A Wilson

**Field Determinations** 

**Dissolved Oxygen: 8.26** 

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.79

100

23.55

DATE

6/9/2009

pH Units

**uMHO** 

mg/L

**CFS** 

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

N00004606002

**Project Name:** 

Sample Description: **EMORY 002.1RO** Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

**Station No.: EMORY 002.1RO** Date/Time Collected: 06/02/2009 11:01

Sampler's Name:

**GEOFF KLEIN** 

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

Sampling Agency: **Billing Code:** 

Chattanooga TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH: 7.73

pH Units

Chlorine, residual: Conductivity:

115

uMHO

Temperature:

25.24

**Dissolved Oxygen: 8.96** mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2				-	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009		<u>-</u>		S Ufegbu	6/4/2009

TEST: ICP	MET	THOD: EPA 20	0.7	- · · · · · · · · · · · · · · · · · · ·		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	400	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	670	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	5.0	μg/L	0.93	5	A Wilson	6/20/2009
Barium	55	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	0.12J	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	3.3J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0. <b>62</b> J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	2.4	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.30J	μg/L.	0.10	1	A Wilson	6/20/2009
Manganese	56	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	2.0	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	0.096J	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606002

**Project Name:** 

**Sample Description:** EMORY 002.1RO **Sampler Project Name:** TVA ASH SPILL

**Project Site No.:** 

2

EMORY 002.1RO

Date/Time Collected: Sampler's Name:

06/02/2009 11:01 GEOFF KLEIN

County:

ROANE - 73

**Sample Matrix:** 

Station No.:

ROANE - 73 Water

EFO:

Chattanooga

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: Priority Date:

TDEC-WPC 06/30/2009

**Date/Time Received:** 

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

**Dissolved Oxygen: 8.96** 

pH:

7.73

pH Units

Chlorine, residual:

Conductivity:

115

uMHO

Temperature:

25.24

mg/L

Other:

Flow:

CFS

TEST: Mercury	ME	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

N00004606003

**Project Name:** 

Sample Description:

APPROX 100' D/S FROM MIDDLE DREDGE Pt Chlorine, residual:

Sampler Project Name: TVA ASH SPILL

Project Site No.:

2A

Station No.:

DREDGE PLUME

Date/Time Collected: Sampler's Name:

06/02/2009 11:09

County:

GEOFF KLEIN ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency: **Billing Code:** 

Chattanooga TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

7.68

pH Units

Conductivity:

117 24.85

**uMHO** 

Temperature: **Dissolved Oxygen: 9.01** 

mg/L

Other: Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009

TEST: ICP	ME	ΓHOD: EPA 20	0.7		•	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME.	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	430	µg/L	6.4	10	A Wilson	6/20/2009
Antimony	Ū	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	3.4J	μg/L	0.93	5	A Wilson	6/20/2009
Barium	50	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	2.2J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.42J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	4.4	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.75J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	52	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	1.5	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	0.067J	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

Sample Description:

N00004606003

**Project Name:** 

APPROX 100' D/S FROM MIDDLE DREDGE P( Chlorine, residual:

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

2A

Station No.:

DREDGE PLUME

Date/Time Collected: Sampler's Name:

06/02/2009 11:09

County:

**GEOFF KLEIN** 

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

**TEST: Mercury** 

**Priority Date:** 

L Barrociere

METHO	D:	EPA	245.1	
<del>-</del>		UITA		

**Field Determinations** 

**Dissolved Oxygen: 9.01** 

MACI

Conductivity:

Temperature:

pH:

Other:

Flow:

MDI

7.68

117

24.85

ANALYZED DV

pH Units

uMHO

mg/L

**CFS** 

DATE

ANALYIE	RESULI	UNITS	IVIDL	INICAL	ANALIZED BI.	DATE	
Mercury	0.050J	μg/L	0.029	0.2	A Wilson	6/9/2009	

DEALU T

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

Sample Description:

N00004606004

**Project Name:** 

EMORY Rr MILE 1.9 AT UNDERWATER WEIR Chlorine, residual:

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

2B

**Station No.:** 

EMORY001.9RO

**Date/Time Collected:** 

06/02/2009 11:18

Sampler's Name:

**GEOFF KLEIN** 

County:

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code:** Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009

09:05

Received By:

L Barrociere

Other:	-
Flow:	CFS

8.27

192

23.59

pH Units

uMHO

mg/L

**Field Determinations** 

Dissolved Oxygen: 10.91

Conductivity:

Temperature:

pH:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009			,	S Ufegbu	6/4/2009

TEST: ICP	EST: ICP METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	240	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	2.0J	μg/L	0.93	5	A Wilson	6/20/2009
Barium	44	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1 '	A Wilson	6/20/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.36J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	3.3	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.38J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	46	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	1.9	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	0.039J	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

Sample Description:

N00004606004

**Project Name:** 

EMORY Rr MILE 1.9 AT UNDERWATER WEIR Chlorine, residual:

**Field Determinations** 

Dissolved Oxygen: 10.91

Conductivity:

Temperature:

pH:

Other:

Flow:

8.27

192

23.59

pH Units

uMHO

mg/L

**CFS** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

2B

Station No.:

Date/Time Collected:

EMORY001.9RO

Sampler's Name:

06/02/2009 11:18

County:

**GEOFF KLEIN** 

Sample Matrix:

ROANE - 73

Water

EFO: Sampling Agency: Chattanooga

Billing Code:

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009

09:05

Received By:

L Barrociere

TEST: Mercury	ry METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.050J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004606005

**Project Name:** 

Sample Description: **EMORY Rr MILE 1.7** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.: EMORY001.7RO **Date/Time Collected:** 06/02/2009 11:26

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

Billing Code: Send Report To: Agency Invoiced:

327.34-20 **TDEC-WPC** TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.65

pH Units

Chlorine, residual:

Conductivity:

220

uMHO

Temperature:

24.80

Dissolved Oxygen: 12.41

mg/L

Other:

Flow:

TEST: Digestion Metals	ion Metals METHOD: EPA 200.2							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009		

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	230	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	300	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	1.6J	μg/L	0.93	5	A Wilson	6/20/2009
Barium	42	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	2.4J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.37J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	2.9	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.46J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	55	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	2.2	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	0.061J	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	Ù .	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U .	μg/L	1.9	5	A Wilson	6/20/2009

N00004606005

**Project Name:** 

Sample Description:

**EMORY Rr MILE 1.7** 

Sampler Project Name: TVA ASH SPILL

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

06/02/2009 11:26

County:

**GEOFF KLEIN** ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

:Ha

8.65

pH Units

Chlorine, residual:

Conductivity:

220

uMHO

Temperature:

24.80

Dissolved Oxygen: 12.41

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.050J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004606006

**Project Name:** 

Sample Description: EMORY Rr MILE 0.1 Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.: EMORY000.1RO Date/Time Collected: 06/02/2009 11:37

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

**TDEC-WPC** TDEC-WPC 06/30/2009

**Priority Date:** Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.60

pH Units

Chlorine, residual:

Conductivity:

224

uMHO

Temperature: **Dissolved Oxygen:** 11.93

24.47

mg/L

Other:

Flow:

TEST: Digestion Metals	Is METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009

TEST: ICP	CP METHOD: EPA 200.7						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: D						
Iron	210	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	270	μg/L	64.0	100	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	U	μg/L	0.93	5 .	A Wilson	6/20/2009
Barium	37	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	· 1	A Wilson	6/20/2009
Chromium	2.4J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.30J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	3.0	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.41J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	39	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	2.0	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	0.042J	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606006

**Project Name:** 

Sample Description:

**EMORY Rr MILE 0.1** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

EMORY000.1RO Date/Time Collected: 11:37

Sampler's Name:

06/02/2009 **GEOFF KLEIN** 

County:

Station No.:

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

METHOD: EPA 245.1

**RESULT** UNITS

TEST: Mercury ANALYTE

Mercury

MDL MQL **ANALYZED BY:** DATE 0.040J 0.029 0.2 μg/L A Wilson 6/9/2009

**Field Determinations** 

**Dissolved Oxygen:** 11.93

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

8.60

224

24.47

pH Units

uMHO

mg/L

**CFS** 

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

MQL - Method Quantitation Limit

N00004606007

**Project Name:** 

**Sample Description:** EMORY Rr MILE 0.1/FIELD DUPL.

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

4 FD

Station No.:

EMORY000.1RO

Date/Time Collected:

06/02/2009 11:37

Sampler's Name:

County:

**GEOFF KLEIN** 

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Chattanooga

**Billing Code:** 

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.60

pH Units

Chlorine, residual:

Conductivity:

224

**uMHO** 

Temperature: **Dissolved Oxygen: 11.93** 

24.47

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009	-	.,		S Ufegbu	6/4/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME <sup>-</sup>	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Aluminum	280	μg/L	64.0	100	A Wilson	6/20/2009
Antimony.	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	· U	μg/L	0.93	5	A Wilson	6/20/2009
Barium	40	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U ·	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	2.6J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.32J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	2.5	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.39J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	39	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	2.4	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606007

**Project Name:** 

Sample Description:

EMORY Rr MILE 0.1/FIELD DUPL.

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

4 FD

**Station No.:** 

EMORY000.1RO

Date/Time Collected:

06/02/2009 11:37

Sampler's Name:

GEOFF KLEIN

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Chattanooga

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.60

pH Units

Chlorine, residual:

Conductivity:

224

**uMHO** 

Temperature:

24.47

Dissolved Oxygen: 11.93

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.030J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004606008

**Project Name:** 

Sample Description:

EMORY Rr MILE 0.1/FIELD BLANK

Sampler Project Name: TVA ASH SPILL

Project Site No.:

4 FB

Station No.: Date/Time Collected:

EMORY000.1RO 06/02/2009 11:37

Sampler's Name: County:

**GEOFF KLEIN** 

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Chattanooga TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** Date/Time Received: 06/30/2009

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

:Hq

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:** 

Other: Flow:

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009	-			S Ufegbu	6/4/2009

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	3.1J	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/20/2009
Barium	U	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	8.7	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	U	μg/L	0.04	. 1	A Wilson	6/20/2009
Copper	U	μg/L	0.38	1	A Wilson	6/20/2009
Lead	U	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	1.1	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	U	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606008

**Project Name:** 

Sample Description:

**EMORY Rr MILE 0.1/FIELD BLANK** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

4 FB

Station No.:

EMORY000.1RO

**Date/Time Collected:** 

06/02/2009 11:37

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC

Date/Time Received:

06/30/2009

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

Chlorine, residual:

Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

**CFS** 

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004606009

**Project Name:** 

Sample Description:

**CLINCH Rr MILE 2.3** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.:

CLINC002.3RO

Date/Time Collected:

06/02/2009 11:50

Sampler's Name: County:

**GEOFF KLEIN** ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency:

TDEC-WPC

**Billing Code:** Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

**Dissolved Oxygen: 11.40** 

pH:

8.33

pH Units

Chlorine, residual:

Conductivity:

225

**uMHO** 

Temperature:

23.80

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	ANALYZED BY:	DATE				
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009	

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	170	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	200	μg/L	6.4	10	A Wilson	6/20/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/20/2009
Barium	35	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	3.2J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.26J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	3.5	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.36J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	30	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	1.4	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	· U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606009

**Project Name:** 

Sample Description:

**CLINCH Rr MILE 2.3** 

Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

06/02/2009 11:50

County:

**GEOFF KLEIN** ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency: Billing Code:

Chattanooga TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

**TDEC-WPC** TDEC-WPC

**Priority Date:** Date/Time Received: 06/30/2009 06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH:

8.33

225

pH Units

Chlorine, residual: Conductivity:

uMHO

Temperature:

23.80 **Dissolved Oxygen:** 11.40

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.040J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

N00004606010

**Project Name:** 

Sample Description:

CLINCH Rr TVA DISCHARGE POINT

Sampler Project Name: TVA ASH SPILL Project Site No.:

5A

Station No.:

KINGASHOUTF2

Date/Time Collected:

06/02/2009 11:59

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

Dissolved Oxygen: 10.42

pH:

8.09

pH Units

Chlorine, residual:

Conductivity:

223

**uMHO** 

Temperature:

23.88

mg/L

Other:

Flow:

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	220	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	WE	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	μg/L	64.0	100	A Wilson	6/20/2009
Antimony	0.33J	μg/L	0.33	1	A Wilson	6/20/2009
Arsenic	2.3J	μg/L	0.93	5	A Wilson	6/20/2009
Barium	49	μg/L	2.5	5	A Wilson	6/20/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/20/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/20/2009
Chromium	3.9J	μg/L	2.0	5	A Wilson	6/20/2009
Cobalt	0.38J	μg/L	0.04	1	A Wilson	6/20/2009
Copper	3.9	μg/L	0.38	1	A Wilson	6/20/2009
Lead	0.47J	μg/L	0.10	1	A Wilson	6/20/2009
Manganese	45	μg/L	0.42	1	A Wilson	6/20/2009
Nickel	2.0	μg/L	0.25	1	A Wilson	6/20/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/20/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/20/2009
Thallium	0.073J	μg/L	0.03	1	A Wilson	6/20/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/20/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/20/2009

N00004606010

**Project Name:** 

CLINCH Rr TVA DISCHARGE POINT

Sample Description: Sampler Project Name: TVA ASH SPILL

**Project Site No.:** 

5A

Station No.: Date/Time Collected: KINGASHOUTF2

Sampler's Name:

06/02/2009 11:59 **GEOFF KLEIN** 

County:

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:** 

Chattanooga TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 **TDEC-WPC** TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

TEST: Mercury

L Barrociere

METHOD: EPA 245.1

**Field Determinations** 

Dissolved Oxygen: 10.42

Chlorine, residual:

Conductivity:

Temperature:

8.09

223

23.88

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

MDL MQL ANALYZED BY: DATE **ANALYTE RESULT** UNITS 0.030J μg/L 0.029 0.2 A Wilson 6/9/2009 Mercury

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

N00004606011

**Project Name:** 

Sample Description:

CLINCH Rr MILE 4.5 NEAR SUGAR GROVE V. Chlorine, residual:

Sampler Project Name: TVA ASH SPILL

Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

06/02/2009 12:10

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Chattanooga TDEC-WPC

**Billing Code:** Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009 09:05

Received By:

L Barrociere

**Field Determinations** 

pH: 8.44

Conductivity:

224

uMHO

pH Units

Temperature:

23.88 **Dissolved Oxygen: 11.75** 

mg/L

Other: Flow:

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/04/2009				S Ufegbu	6/4/2009

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	200	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	A Wilson	6/3/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/3/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/3/2009
Barium	42	μg/L	2.5	5	A Wilson	6/3/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/3/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/3/2009
Chromium	2.9J	μg/L	2.0	5	A Wilson	6/3/2009
Cobalt	0.30J	μg/L	0.04	1	A Wilson	6/3/2009
Copper	3.3	μg/L	0.38	1	A Wilson	6/3/2009
Lead	0.41J	μg/L	0.10	1	A Wilson	6/3/2009
Manganese	35	μg/L	0.42	1	A Wilson	6/3/2009
Nickel	2.2	μg/L	0.25	1	A Wilson	6/3/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/3/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/3/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/3/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/3/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/3/2009

N00004606011

**Project Name:** 

Sample Description: Sampler Project Name: TVA ASH SPILL

CLINCH Rr MILE 4.5 NEAR SUGAR GROVE V. Chlorine, residual:

**Field Determinations** 

Dissolved Oxygen: 11.75

Conductivity:

Temperature:

8.44

224

23.88

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

**Project Site No.:** 

**Station No.:** 

CLINC004.5RO

**Date/Time Collected:** 

06/02/2009 12:10

Sampler's Name:

**GEOFF KLEIN** 

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Chattanooga

Sampling Agency: **Billing Code:** 

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/30/2009

Date/Time Received:

06/03/2009

09:05

Received By:

L Barrociere

TEST: Mercury	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.050J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit